

**Solution Principles and
Objectives**

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SOLUTION PRINCIPLES

INTRODUCTION

Solution principles are the fundamental principles which guide development and evaluation of the Program alternatives by the CALFED Bay-Delta Program. The solution principles provide an overall measure of the acceptability of alternatives and guide the design of the institutional part of each alternative.

DEFINITIONS AND CRITERIA FOR SOLUTION PRINCIPLES

The six principles are an integral part of the CALFED Bay-Delta Program mission statement and are intended to be used collectively. Following are draft definitions for each solution principle and draft criteria for their application:

Reduce Conflicts in the System

A solution will reduce major conflicts among beneficial users of water. A solution should:

- significantly reduce each of the four major conflicts which have been identified for the Bay-Delta system. Most of the problems in the Bay-Delta are embodied in one or more of these conflicts. They are:
 - fisheries and diversions
 - habitat and land use/flood protection
 - water supply availability and beneficial uses
 - water quality and land use

Equitable

An equitable solution will focus on solving problems in all problem areas. Improvements for some problems will not be made without corresponding improvements for other problems. Equitable considerations include:

- satisfy some portion of each of the 4 primary and 14 secondary objectives which have been identified for the Program.
- provide a reasonable balance of reliability weighted¹ improvements for the four resource areas. Balance does not necessarily require an equal level of improvement for each resource area (e.g. water exporters might be willing to accept less improvement in water supply reliability if water quality is significantly improved).
- result in costs allocated to the economic users of water based on the benefits they receive from the solution. However, there is no obligation to provide benefits to those unwilling to contribute towards the solution.
- result in net benefits and burdens balanced across stakeholder groups.

Affordable

An affordable solution will be one that can be implemented and maintained within the foreseeable resources of the Program and stakeholders. An affordable solution should:

- have identifiable revenue and financing provisions which are adequate for implementation and continued maintenance of the solution.
- be among the least expensive solutions, for a given level of implementation, which achieve the Program objectives.
- minimize the negative effects on the credit rating of those funding the solution.

¹

In order to recognize the potential for uncertainty and differences in timing in the receipt of benefits, benefits may be weighted by the degree of probability that the benefit will be received as anticipated. Benefits which appear more certain would have a higher weighted value, while those with less certainty due to timing or technical issues would have a lower weighted value.

Durable

A durable solution will have political and economic staying power and will sustain the resources it was designed to protect and enhance. A durable solution should:

- be adaptive, flexible to changing needs and potential future conditions, and able to address biological uncertainty to sustain the resources it was designed to protect and enhance.
- provide ecosystem improvement using a variety of mechanisms to better face biological uncertainty rather than relying on any single theory of ecosystem improvement.
- accommodate hydrological and other physical uncertainties (e.g. increased storage would hedge against the unknown, or consideration of impacts of potentially higher sea levels on the various alternatives could strengthen durability).
- have adequate legal, operational or physical provisions to ensure that objectives continue to be met in an equitable way for the long-term.
- include a financial plan which has provisions to ensure that the solution will be implemented as intended, while providing flexibility to alter revenues to respond to changing future needs.

Implementable

An implementable solution will have broad public acceptance, legal feasibility and will be timely and relatively simple to implement compared with other alternatives. An implementable solution should:

- have legal or practical precedents or have a clearly identified series of reasonable steps which could be taken to enable implementation.
- have institutional feasibility.
- include as few major legal and institutional changes as necessary while meeting Program objectives.

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- have broad acceptance across the various geographic areas and interest groups as well as the state as a whole.
 - be timely (can be implemented relatively quickly) and is relatively simple compared with other potential solutions.

No Significant Redirected Impacts

A solution will not solve problems in the Bay-Delta system by redirecting significant negative impacts, when viewed in its entirety, in the Bay-Delta or other regions of California. A solution should:

- minimize negative long-term economic impacts at the regional level.
- compensate for or mitigate unavoidable negative impacts to the greatest extent practicable.

OBJECTIVES

The mission of the CALFED Bay-Delta program is to develop a long-term comprehensive plan that will restore ecological health and improve water management for beneficial uses of the Bay-Delta system.

ECOSYSTEM QUALITY

Improve and increase aquatic and terrestrial habitats and improve ecological functions in the Bay-Delta to support sustainable populations of diverse and valuable plant and animal species.

- Improve and increase **aquatic habitats** so that they can support the sustainable production and survival of native and other desirable estuarine and anadromous fish in the estuary.
- Improve and increase important **wetland habitats** so that they can support the sustainable production and survival of wildlife species.
- Increase population health and population size of **Delta species** to levels that assure sustained survival.

WATER SUPPLY RELIABILITY

Reduce the mismatch between Bay-Delta water supplies and current and projected beneficial uses dependent upon the Bay-Delta system.

- Reduce the **conflict among beneficial water users** and improve the ability to transport water through the Bay-Delta system.
- Reduce the **uncertainty** of Bay-Delta system water supplies to help meet short- and long-term needs.

WATER QUALITY

Provide good water quality for all beneficial uses.

- Provide good water quality in Delta water exported for **drinking water** needs.
- Provide good Delta water quality for **agricultural** use.
- Provide good Delta water quality for **industrial** use.
- Provide good Delta water quality for **recreational** use within the Delta.
- Provide improved Delta water quality for **environmental** needs.

SYSTEM VULNERABILITY

Reduce the risk to land use and associated economic activities, water supply, infrastructure, and the ecosystem from catastrophic breaching of Delta levees.

- Manage the risk to **existing land use, associated economic activities and infrastructure** from gradual deterioration of Delta conveyance and flood control facilities and catastrophic inundation of Delta islands.
- Manage the risk of **water supply facilities and operations** in the Delta from catastrophic inundation of Delta islands.
- Manage the risk to **water quality** in the Delta from catastrophic inundation of Delta islands.
- Manage the risk to **existing Delta ecosystem** from gradual deterioration of Delta conveyance and flood control facilities and catastrophic inundation of Delta islands.